

PROGRAMMABLE CAPACITOR AND METHOD OF OPERATING SAME

ABSTRACT OF THE DISCLOSURE

A programmable capacitor in an integrated circuit (IC) comprises a conductive line located parallel to an interconnect. When a bias voltage is applied to the conductive line, a parasitic capacitance is created between the interconnect and the conductive line. By properly sizing and locating the conductive line, a desired capacitance can be coupled to the interconnect. A bias control circuit can apply or remove the bias voltage from the conductive line, thereby enabling the capacitance to be coupled or decoupled, respectively, from the interconnect. Because of its simple construction, multiple capacitive structures can be formed around a single interconnect to provide capacitive adjustment capability. By changing the number of conductive lines to which the bias voltage is applied, the total capacitance provided by the multiple capacitive structures can be varied. A feedback loop can be incorporated to provide adjustment during IC operation.